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APPLICATION FOR UNITED STATES PATENT

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Title: **DISPOSABLE COVER FOR A PILLOW SPEAKER OR
THE LIKE**

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SPECIFICATION

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SPECIFICATION

DISPOSABLE COVER FOR A PILLOW SPEAKER OR THE LIKE

Field of Invention

This invention relates generally to covers for pillow speakers or the like; more particularly the invention relates to a disposable plastic cover for pillow speakers or the like.

Background of the Invention

For the comfort of their patients most hospitals and other care facilities have televisions which may be remotely operated from the patient bed. Conventionally, the television receiver is wired to a separate control unit known as a pillow speaker. The pillow speaker is typically a plastic box with a cord extending therefrom to be plugged into a wall receptacle that connects to the television and in some cases to a nurses station. The pillow speaker also usually includes one or more buttons to turn the television on and off, control channel

selection and, possibly, volume, by way of example, and may even include a nurse call button. The pillow speaker usually includes an audio speaker which provides the audio through a speaker grille or perforations in the box. The pillow speaker box usually is set on the mattress within easy reach of the patient, or may dangle from a railing of the bed frame near the patient. Some examples of pillow speakers are shown in U.S. Patent Nos. Des. 326,095; Des. 326,854; Des. 382,268; and Des. 382,269.

As might be appreciated, infection control is of paramount concern in hospital and other patient settings. The pillow speaker can be one source of transmission of bacteria and viruses, for example, from patient to patient, especially because pillow speakers are either not sterilized between patients, or may not even be readily adapted to be so-sterilized. In order to reduce the possibility that the pillow speaker may be a source of infection, a plastic bag, such as a standard food freezer bag may be placed over the pillow speaker. After the patient leaves that bed, and before another patient is given use of the bed, the bag may be removed and thrown away, and a new bag placed on the pillow speaker.

The use of standard food freezer bags presents certain drawbacks, however. As will be appreciated, a standard food freezer bag is comprised of a pair of panels joined together to define an upper opening. The pillow speaker is inserted into the bag through the opening. However, the pillow speaker may fall out of the open end of the bag thereby reinstating the risk of infection. To reduce that likelihood, it has been proposed to partially rip the top end of the bag panels and to then tie the torn ends about the cord. While that approach reduces

the risk that the speaker pillow will come out of the bag, the ripping and tying steps are time consuming and very imprecise. The bag may tear too far, requiring either another bag or leaving large portions of the pillow speaker exposed. Further, tying the torn ends may not adequately close off the bag thus also leaving portions of the pillow speaker exposed. Moreover, when it is time to remove the bag for the next patient, there may be difficulties in untying or ripping the bag open. Finally, freezer bags are not properly suited to the size of most pillow speakers, and so leave a lot to be desired.

Another approach is to use a smaller plastic bag that is provided with a cord draw-string about its opening. When the pillow speaker is in the bag, the cord can be pulled tight to close the bag, thus reducing some of the problems with the use of freezer bags. But the draw-string will not stay shut unless it is tied closed. Removal of the bag before the next patient is very difficult, however, due to the tight knot such cords make when they are tied. Additionally, draw-string based pillow speaker covers are expensive to manufacture and therefore more expensive for a hospital to purchase in bulk.

The draw-string cover may be smaller than the freezer bag, and so can better receive some pillow speakers. However, pillow speakers come in many sizes, meaning that the draw-string cover may have to be provided in a great many sizes, thereby further increasing costs to stock and differentiate between the sizes.

Additionally, nurse call boxes may be provided in addition to the pillow speaker. Nurse call boxes are similar to pillow speakers in that they are small plastic boxes with a cord extending therefrom, and are accessible at or on

the bed for the patient to use to call the nurse. Covers for nurse call boxes would also be useful to reduce the spread of infection between patients. Thus there is a need for disposable covers for pillow speakers, nurse call boxes, and similar such hand-sized control boxes that are placed on or at the bed for patient use, and have a cord extending therefrom (such control boxes hereinafter being referred to as "patient bed hand control boxes").

Summary of the Invention

The present invention provides a disposable cover for patient bed hand control boxes such as pillow speakers and/or nurse call boxes which overcomes the above-mentioned drawbacks. To this end and in accordance with one of the principles of the present invention, a disposable cover for a patient bed hand control box is provided in which the plastic bag includes a flap extending from one of the panels, and which is long enough that it can be folded over the bag opening with the box therein, and secured to the other panel of the bag with the cord extending out along the flap. The flap allows the bag to accommodate a range of sizes of pillow speakers or other patient bed hand control boxes, thereby reducing inventory issues. Further, there is no need for ripping and tying, thereby eliminating the drawbacks thereof. Still further, the flap may be achieved merely by using a longer panel, which is extremely inexpensive in the manufacture, and eliminates the high cost of the draw-string approach.

Advantageously, the flap may be perforated so that it can be easily separated into two ears, with each ear being separately folded over to

either side of the cord. Further, the ears may be folded so as to cross each other, to thereby provide a more secure closure.

The flap may be adhesively secured in place, such that the flap can attach over a range of sizes to thereby allow the cover to accommodate a range of sizes of patient bed control boxes. Tape or any other suitable removable material may be used to cover the adhesive prior to use.

There may be situations where it is not desired to have the extended flap and/or the adhesive securement of the flap. To that end, and in accordance with another aspect of the present invention, a securement means may be affixed, either permanently or removably, to only one of the panels. Unlike a draw-string which must be associated with both panels, securement mechanisms that apply to only one panel are less costly. Adhesive securement is one example. In that case, adhesive is on a surface of one of the panels, and the other panel sticks to it when the bag is to be closed. A flap may be included as above-mentioned with the adhesive on the flap, for example. Another example is the use of so-called twist-ties (which may be either a strip of plastic coated wire, or pre-formed plastic cable-lock strips) held (permanently or removably) to one of the panels. Such twist-ties present significantly lower costs than draw-string closures. Further, with the twist-tie, the closure may be achieved along the panels close to the top of the box therein, such that a bag of a given size may readily accommodate a range of pillow speaker sizes, or other patient bed hand control boxes. Further, twist-ties are used throughout daily life, and are thus familiar for ease of use, both in closing, and later removal, of the bag.

In accordance with a yet further aspect of the present invention, the bag may be provided with a notch or opening formed along its side, such as at the adjacent side edge of the panels. The notch is positioned to coincide with the volume control of the pillow speaker or other patient bed hand control box received in the bag, to facilitate using the volume control. The notch may assume any desired configuration; however a half moon configuration may be advantageous.

By virtue of the foregoing, there is thus provided a disposable cover for patient bed hand control boxes such as pillow speakers and/or nurse call boxes which overcomes the drawbacks of freezer bags and draw-string based bags. These and other objects and advantages of the present invention shall be made apparent from the accompanying drawings and description thereof.

Brief Description of the Drawings

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate an embodiment of the invention and, together with a general description of the invention given below, serve to explain the principles of the invention.

Fig. 1 is a perspective view of the disposable patient bed hand control box cover of the present invention secured around a patient bed hand control box and lying on a bed next to a patient;

Fig. 2A is a perspective view of the disposable patient bed hand control box cover of Fig. 1 prior to a patient bed hand control box being placed therein;

Fig. 2B is a perspective view of the disposable patient bed hand control box cover of Fig. 2A with a patient bed hand control box therein and tape being removed from a flap portion of a panel of the cover;

Fig. 2C is a perspective view of the disposable patient bed hand control box cover of Fig. 2A with a patient bed hand control box therein, the flap portion of the cover separated into two ears and one ear being adhesively secured to the other panel of the cover;

Fig. 2D is a perspective view of the disposable patient bed hand control box cover of Fig. 2A with a patient bed hand control box therein, both ears of the flap portion of the cover being adhesively secured to the other panel of the cover;

Fig. 2E is a perspective view of the disposable patient bed hand control box cover of Fig. 2A with a patient bed hand control box therein, being shown from the opposite side of that seen in Fig. 2D;

Fig. 3 is a partial perspective view of an alternative embodiment of disposable patient bed hand control box cover secured around a patient bed hand control box, a flap portion of the cover being adhesively secured to the other panel of the cover;

Fig. 4A is a perspective view of an alternative embodiment of disposable patient bed hand control box cover prior to a patient bed hand control box being placed therein; and

Fig. 4B is a perspective view of the disposable patient bed hand control box cover of Fig. 4A secured around a patient bed hand control box.

Detailed Description of the Drawings

Referring to Fig. 1, a disposable cover 10 for a patient bed hand control box (such as a pillow speaker or nurse call box) 12 is illustrated. As best illustrated in Figs. 2B-2E, the patient bed hand control box 12 has a body 14 and a cord 16 extending outwardly from the body 14 and connected to a television receiver (not shown), nurse station (not shown) and/or the like. The patient bed hand control box 12 typically has a plurality of buttons 15 (see Fig. 2E) which activate different controls to turn the television on and off, control channel selection and the like. The patient bed hand control box 12 also usually includes an audio speaker which provides the audio through a speaker grille or perforations 17 in the box (see Fig. 2E). Although one configuration of patient bed hand control box 12 is illustrated and described, any other configuration and/or shape of patient bed hand control box 12 may be used in accordance with the present invention.

As illustrated in Fig. 1, the patient bed hand control box 12 usually is set on the mattress 18 within easy reach of the patient 20, or may be secured and dangle from a railing 22 of the bed frame near the patient 20.

Referring to Figs. 2A- 2E, one embodiment of the disposable cover 10 of the present invention is illustrated. This embodiment of cover 10 comprises a generally rectangular first panel 24 having a top edge 26, a bottom edge 28 and a pair of opposed side edges 30. This first panel 24 has an outer

surface 25 and an inner surface 27, as shown in Fig. 2A. Similarly, the cover 10 comprises a generally rectangular second panel 32 having a top edge 34, a bottom edge 36 and a pair of opposed side edges 38. The second panel 32 has an outer surface 33 (see Fig. 2E) and an inner surface 35 (see Fig. 2A). The first and second panels 24, 32, respectively, are joined together along their bottom 28, 36 and side edges 30, 38 in a conventional manner such as by being, in part of a common sheet and/or by ultrasonic welding or the like. Once the panels 24, 32 are joined, the cover 10 has a bottom edge 5, a pair of opposed side edges 6 and an internal cavity 40 having an upper opening 42. If desired, a gusset (not shown) may be formed along the bottom or side edge(s) 5, 6 of the disposable cover 10. A nurse or other person may insert and/or remove a patient bed hand control box 12 from the internal cavity 40 through this upper opening 42.

As shown in Fig. 2B, the internal cavity 40 preferably is sized to closely receive the body 14 of the patient bed hand control box 12, the cord 16 of the patient bed hand control box 12 extending upwardly from the body 14 of the patient bed hand control box 12 and through the opening 42 of the internal cavity 40 of the cover 10.

As illustrated in Fig. 2A, the second panel 32 is generally taller than the first panel 24, the top edge 34 of the second panel 32 being above the top edge 26 of the first panel 24. For purposes of this document, the portion of the second panel 32 located above the top edge 26 of the first panel 24 will be referred to as a flap portion 44. Although the flap portion 44 is illustrated as being generally rectangular and a particular size, it may be other configurations and/or other sizes other than those shown.

As best illustrated in Figs. 2A and 2B, the flap portion 44 of the second panel 32 has a perforated line 46 extending downwardly from the top edge 34 of the second panel 32 a predetermined distance D. The perforated line 46 preferably comprises a plurality of spaced, linear segments 48. However, it may comprise a series of dots, a continuous line or any other suitable arrangement which enables the flap portion 44 of the second panel 32 to be torn along the perforated line 46 into two ears, portions or sections 50. Although the ears 50 of the flap portion 44 of the second panel 32 are illustrated as being the same size they may be different sizes if desired. The perforated line 46 is preferably parallel the side edges 38 of the second panel 32 but need not be so oriented.

As shown in Figs. 2B and 2C, each of the ears 50 of the flap portion 44 of the second panel 32 has a strip of adhesive 52 on the inner surface 35 thereof. A strip of tape 56 covers the strip of adhesive 52 until the strip of tape 56 is removed. Although a strip of adhesive 52 is shown on each ear 50, the adhesive may be in the form of dots, lines or any other configuration covered with tape until one desires to expose the adhesive.

In the embodiment of cover 10 illustrated in Figs. 2A-2E, each of the first and second panels 24, 32, respectively has a notch 58, 60 therein so that when the panels are joined, the cover 10 has a notch 62 extending inwardly from one of the side edges of the cover 10. The notch 62 is adapted to allow access to a volume control 64 of the body 14 of the patient bed hand control box 12 and is preferably in the shape of a half-moon. However, the cover's notch 62 may assume any desired shape.

The disposable cover 10 may be made of any suitable material. However, one type of material which is believed satisfactory is low density polyethylene. Panels 24 and 32 are advantageously as thin as possible to facilitate ease of use by patient 20 in manipulating the control buttons 15 on box 12 within cover 10 through the panel 24 or 32 thereof, but not so thin that adhesive 52 does not properly adhere thereto.

Figs. 2A-2E illustrate the method of covering the body 14 of the patient bed hand control box 12 with the disposable cover 10. The first step in the process is to obtain a disposable cover 10 as shown in Fig. 2A. The body 14 of the patient bed hand control box 12 is then inserted into the interior cavity 40 of the cover 10 through the upper opening 42 of the cover 10, the cord 16 of the patient bed hand control box 12 extending outwardly from the cover opening 42. The nurse, employee or operator then removes the tape 56 from the flap portion 44 of the second panel 32 as shown in Fig. 2B. The two ears 50 of the flap portion 44 of the second panel 32 are then separated by the operator by tearing the second panel 32 along the perforated line 46. See Fig. 2C. The nurse, employee or operator then folds one of the ears 50 of the flap portion 44 of the second panel 32 over the upper opening 42 so as to partially close this opening 42 of the cavity 40 as shown in Fig. 2C. This process is repeated for each ear 50. Each ear 50 is passed on one side of the cord 16 of the patient bed hand control box 12 and is secured to the outside surface 25 of an upper portion of the first panel 24 as shown in Figs. 2C and 2D.

Fig. 3 illustrates an alternative embodiment of disposable cover 10a covering a patient bed hand control box 12a having a body 14a and a cord

16a extending outwardly from the body 14a. This embodiment of cover 10a comprises first and second panels 24a, 32a joined together along their bottom and side edges in a conventional manner as described above. The second panel 32a has a flap portion 44a which has no perforated line like the embodiment of Figs. 2A-2E. Therefore, when the flap portion 44a of the second panel 32a is folded over the first panel 24a and adhesively secured to the first panel 24a the cord 16a of the patient bed hand control box 12a extends out of the cover 10a through a side opening as shown in Fig. 3. Although, this embodiment of cover 10a is illustrated lacking a notch for the volume control, it is within the purview of the present invention that any of the embodiments including that of Fig. 3 may have a notch therein through which a patient may access the volume control or other control of a patient bed hand control box.

Figs. 4A and 4B illustrate another alternative embodiment of disposable cover 10b covering a patient bed hand control box 12b having a body 14b and a cord 16b extending outwardly from the body 14b. This embodiment of cover 10b comprises first and second panels 24b, 32b joined together along their bottom and side edges in a conventional manner as described above. The first and second panels 24b, 32b respectively, are the same size; therefore none of the panels has a flap portion like the embodiments described hereinabove. Therefore, in order to secure the first and second panels 24b, 32b together in for sanitary purposes yet allow the cord 16b of the patient bed hand control box 12b to pass through the upper opening in the internal cavity 40b, a mechanical closure strip 70 is wrapped around the disposable cover 10b and cord 16b in a manner shown in Fig. 4B. The mechanical closure strip 70 is preferably made of

plastic; however it may be made of any suitable material. Although one configuration of mechanical closure strip 70 is illustrated, the mechanical closure strip 70 may assume other configurations or forms such as for example a wire twist tie.

5 While the present invention has been illustrated by the
description of an embodiment thereof, and while the embodiment has been
described in considerable detail, it is not intended to restrict or in any way limit
the scope of the appended claims to such detail. Additional advantages and
modifications will readily appear to those skilled in the art. The invention in its
O broader aspects is therefore not limited to the specific details, representative
apparatus and method and illustrative examples shown and described.
Accordingly, departures may be made from such details without departing from
the scope or spirit of applicant's general inventive concept.

Having described the invention, what is claimed is: